AMENDMENTS TO THE CLAIMS:

Please cancel claim 2, without prejudice or disclaimer of its subject matter, and amend claims 1 and 5 as indicated below. This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (Currently Amended) A semiconductor device comprising:

a porous film formed above a semiconductor substrate~~, the porous film~~ and having at least one burying concave selected from the group consisting of a trench and a hole;

a conductive barrier layer formed on the inner surface of the burying concave;

a conductive member buried in the burying concave with the conductive barrier layer interposed between the porous film and the conductive member; and

a mixed layer formed between the porous film and the conductive barrier layer, and ~~containing a component of the porous film and a component of the conductive barrier layer~~ comprising a layer constituted by the porous film and having open cells exposed to the inner surface of the burying concave, and the open cells on the side of the conductive barrier layer being substantially closed by the same component as that of the conductive barrier layer.

2. (Cancelled)

3. (Original) A semiconductor device according to claim 1, wherein an aspect ratio D/W of the depth D to the width W of the burying concave is 1.5 or more.

4. (Original) A semiconductor device according to claim 1, wherein the conductive barrier layer is made of at least one selected from the group consisting of TiSiN, TaN, WN, WSiN and TaAlN.

5. (Currently Amended) A semiconductor device according to claim [[2]] 1, wherein the concentration of the component ~~of the conductive barrier layer contained~~ in the mixed layer is high on the side of the conductive barrier layer and is gradually lowered with increasing distance from the conductive barrier layer~~, and the open cells of the porous film on the side of the conductive barrier layer are substantially closed by the same component as the conductive barrier layer~~.

6. (Original) A semiconductor device according to claim 1, wherein the mixed layer has a thickness not larger than 30 nm.

7. (Withdrawn) A method of manufacturing a semiconductor device, comprising:

forming at least two conductive barrier layers having substantially the same component composition by a thermal CVD method on the inner surface of at least one burying concave selected from the group consisting of a trench and a hole formed in a porous film formed above a semiconductor substrate; and

burying a conductive member in the burying concave having the conductive barrier layers formed therein;

wherein the pressure for the thermal CVD process for forming the first conductive barrier layer is set lower than the pressure for the thermal CVD process for forming the other conductive barrier layer including the second conductive barrier layer.

8. (Withdrawn) A method of manufacturing a semiconductor device according to claim 7, wherein an aspect ratio D/W of the depth D to the width W of the burying concave is 1.5 or more.

9. (Withdrawn) A method of manufacturing a semiconductor device according to claim 7, wherein the thermal CVD process for forming the first conductive barrier layer is carried out at a temperature of 300 to 370°C and a pressure of 0.4 to 0.8 Torr, and the thermal CVD process for forming the other conductive barrier layer including the second conductive barrier layer is carried out at a temperature of 300 to 370°C and a pressure not lower than 1.0 Torr.

10. (Withdrawn) A method of manufacturing a semiconductor device according to claim 7, wherein the thermal CVD process for forming the first conductive barrier layer is carried out so that open cells of the porous film which lies in a region extending to a distance of not larger than 30 nm from the inner surface of the burying concave is substantially closed by the same component as the conductive barrier layer.

11. (Withdrawn) A method of manufacturing a semiconductor device according to claim 7, wherein each of the thermal CVD processes is used a mixed gas, for forming a conductive barrier layer consisting essentially of TiSiN, containing at least one titanium compound gas

selected from the group consisting of tetrakis(dimethylamino)titanium, tetrakis(diethylamino)titanium, and $TiCl_4$, at least one silicon compound gas selected from the group consisting of SiH_4 and Si_2H_6, and at least one nitrogen-containing gas selected from the group consisting of NH_3 and N_2.

12. (Withdrawn) A method of manufacturing a semiconductor device according to claim 7, wherein the conductive member is buried in the burying concave by forming a conductive film on the conductive burrier layers formed on the porous film including the burying concave and then applying a chemical mechanical polishing treatment to the conductive film.

13. (Withdrawn) A method of manufacturing a semiconductor device according to claim 7, further comprising forming an insulating protective film on the porous film, the burying concave being formed in a laminated film consisting of the porous film and the insulating protective film.

14. (Withdrawn) A method of manufacturing a semiconductor device, comprising:

forming a first conductive barrier layer by a plasma CVD process on the inner surface of at least one burying concave selected from the group consisting of a trench and a hole formed in a porous film formed above a semiconductor substrate;

forming at least one second conductive barrier layer by a thermal CVD process or an atomic layer deposition on the inner surface of the burying concave having the first conductive barrier layer formed therein; and

burying a conductive member in the burying concave having the second conductive barrier layer formed therein.

15. (Withdrawn) The method of manufacturing a semiconductor device according to claim 14, wherein an aspect ratio D/W of the depth D to the width W of the burying concave is 1.5 or more.

16. (Withdrawn) The method of manufacturing a semiconductor device according to claim 14, wherein the thermal CVD process for forming the second conductive barrier layer is carried out at a temperature of 300 to 370°C and a pressure not lower than 1.0 Torr.

17. (Withdrawn) A method of manufacturing a semiconductor device according to claim 14, wherein the plasma CVD process for forming the first conductive barrier layer is carried out so that open cells of the porous film which lies in a region extending to a distance of not larger than 30 nm from the inner surface of the burying concave is substantially closed by the same component as the conductive barrier layer.

18. (Withdrawn) A method of manufacturing a semiconductor device according to claim 14, wherein the plasma CVD process and the thermal CVD process are used a mixed gas, for forming a conductive barrier layer consisting essentially of TiSiN, containing at least one titanium compound gas selected from the group consisting of tetrakis(dimethylamino)titanium, tetrakis(diethylamino)titanium, and $TiCl_4$, at least one silicon compound gas selected from the

group consisting of SiH_4 and Si_2H_6, and at least one nitrogen-containing gas selected from the group consisting of NH_3 and N_2, respectively.

19. (Withdrawn) A method of manufacturing a semiconductor device according to claim 14, wherein the conductive member is buried in the burying concave by forming a conductive film on the first and second conductive burrier layers formed on the porous film including the burying concave and then applying a chemical mechanical polishing treatment to the conductive film.

20. (Withdrawn) A method of manufacturing a semiconductor device according to claim 14, further comprising forming an insulating protective film on the porous film, the burying concave being formed in a laminated film consisting of the porous film and the insulating protective film.